

REMARKS

Summary of the Office Action Dated November 3, 2004

Claims 1-3, 5-7, 9, 11-13, 15-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant admitted prior art (AAPA) in view of US 6,297,862 (Murade).

Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA and Murade as applied to claims 1-3, 5-7, 9, 11-13, 15-17 and 19 above, and further in view of US 6,266,117 (Yanagawa et al).

Summary of Response to the Office Action

Applicants respectfully traverse the rejection of claims under 35 U.S.C. § 103(a). Currently, claims 1-3, 5-7, 9, 11-13, 15-17, 19 and 21 are pending for consideration.

Response to the Office Action

Applicants respectfully traverse the § 103 rejections of the claims. In particular, Applicants maintains the positions expressed in the Amendment filed September 30, 2004, and provide the following clarifying arguments to assist examination of the instant application.

Independent Claims 1, 5, 9, 11, 15, and 19 contain allowable subject matter.

First, nothing in Murade suggests that the metal drain electrode of the switching device or the thin film transistor should be covered by the light shielding layer with a sufficient margin, as recited in independent claims 1, 9, 11, and 19.

Murade uses the black matrix to prevent light from being incident to the ***channel region*** to minimize a leakage current. This is evident from the disclosure of Murade, and in fact conceded by the following Examiner's statements in the Office Action dated November 3, 2004:

The reference Murade clearly disclose (col. 1, lines 30-41) that TFT is covered by a black matrix ***to prevent the channel region of the TFT*** from being exposed to direct light which would otherwise cause a leakage

current. Murade also indicates (col. 9, lines 49-67) that using black matrix (6) with ample margins covering, it effectively prevents direct impingement of incident light, and the incident light is *prevented from being reflected from impinging on the channel region of the TFT*, and hence it minimizes a leakage current of the TFT which otherwise would be generated if it were exposed to stray light, and such device presents a display of high quality image free from image degrading effect such as cross-talk, and that is the motivation.

Accordingly, the incident light being prevented impinging to the TFT, so that the reflectivity of the display also being reduced, and that would have been at least obvious. (Emphasis added.)

Office Action Dated November 3, 2004, at page 7.

Thus, according to the Examiner's own understanding of Murade, Murade does not suggest that the metal drain electrode of the switching device or the thin film transistor should be covered by the light shielding layer with a sufficient margin, as recited in independent claims 1, 9, 11, and 19. As noted by the above-recited Examiner's statements, Murade concerns exposing the channel region of the TFT, not the metal drain electrode of the TFT. Thus, according to Murade's teaching, if there is some additional metallic structure that covers the channel region, then, no additional shielding of light by the black matrix would be needed.

For example, this Murade's teaching would not lead one of ordinary skill in the art to extending the light shielding member 11 of FIG. 2 of the instant application in a manner depicted in FIG. 5 of the instant application. This is because the channel region of the transistor of FIG. 2 is already sufficiently covered by the light shielding layer 11 and because the drain electrode 7 is made of metal which blocks light (as described at col. 4, lines 43-51 in Murade, a metal film blocks light).

Thus, Murade does not provide any suggestion or motivation to extend the light shielding member of the alleged AAPA into the pixel area with a margin sufficient to block light incident

on the metal drain electrode of the switching device or the thin film transistor, as recited in independent claims 1, 9, 11, and 19.

Similarly, the Examiner's reasoning with respect to the features of the charging device or storage capacitor recited in independent claims 5, 9, 15, and 19 is flawed for the following reasons. The Office Action states at page 4:

inherently, the light shielding member (black matrix 6) also extending over the upper electrode of the storage capacitor (any two conductive layers and an insulating layer would constitute a capacitor) that is sufficient to block light incident onto the drain/source region (the metal thin film), . .

Office Action dated November 3, 2004, pages 4-5.

First, it should be noted that the central issue here is not whether Murade "inherently" discloses that the "light shielding member (black matrix 6) covers Murade's non-metallic upper electrode of the storage capacitor, but whether Murade provides a proper motivation or suggestion to modify the teaching of the alleged AAPA with respect to the charging device (or storage capacitor), such as FIG. 3 of the instant application, to extend the light shielding member into the pixel area with a margin sufficient to block light incident on **the metal upper electrode** of the charging device or the storage capacitor, as recited in claims 5, 9, 15, and 19.

There is no metal film in the storage capacitor disclosed in Murade. Murade simply teaches that a non-metallic capacitance line 16 (formed of a polysilicon film) must be shielded from light (col. 16, lines 65-66; col. 17, lines 31-31), thereby necessitating the black matrix of the opposite substrate having a large area.

Murade does not provide any motivation or suggestion to extend the light shielding layer to cover the storage capacitor when the upper electrode of the storage capacitor is already made

of metal. Indeed, Murade actually suggests that when such a metal storage capacitor electrode is present, there is no need to have a light shielding layer over it. For example, col. 4, lines 43-51 of Murade reads:

According to the substrate for the liquid crystal device, the scan line is made at least of a metal film or a metal alloy film which makes it possible for the scan line to also act as a light shielding film. Because through this arrangement it is possible for the scan line as well as the data line to act as a light shielding film, placement of a black matrix on the opposite substrate can be safely omitted, by forming all the sides surrounding the pixel electrode so as to overlap with the data lines and the scan lines.

Murade, col. 4, lines 43-51.

Similar descriptions are also found at col. 2, lines 6-9; col. 14, line 63-col. 15, line 5; col. 16, lines 33-38. Therefore, Applicants respectfully assert that Murade does not provide a proper motivation to modify the teaching of the alleged AAPA with respect to the charging device (or storage capacitor) to extend the light shielding member into the pixel area with a margin sufficient to block light incident on the metal upper electrode of the charging device or the storage capacitor, as recited in claims 5, 9, 15, and 19.

Accordingly, Applicants respectfully submit that independent claims 1, 5, 9, 11, 15, and 19 are allowable.

Dependent claims 2-3, 6-7, 12-13, 16-17, and 21 contain allowable subject matter.

Dependent claims 2-3, 6-7, 12-13, 16-17, and 20 are allowable at least because of their respective dependencies upon allowable claims 1, 5, 9, 11, 15, and 19 and for the additional features they recite.

Conclusion


In view of the foregoing, Applicants respectfully request reconsideration and the timely allowance of all pending claims. Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative at 202.739.5660 to expedite prosecution.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. §1.1 36(a)(3).

Respectfully submitted,

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